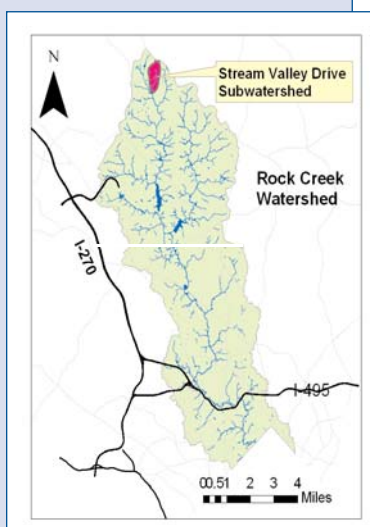
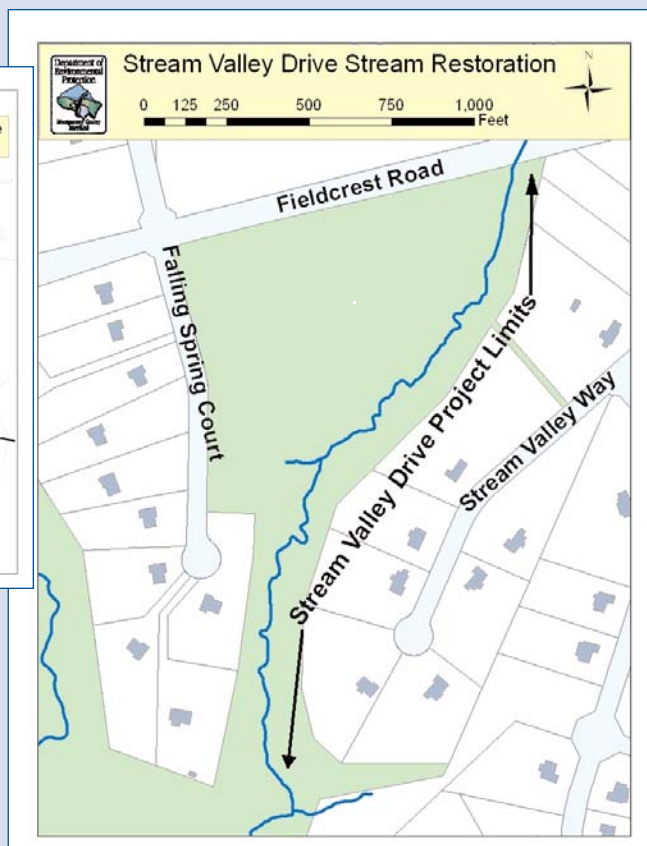


Watershed Restoration FACTSHEET:

Stream Valley Drive Project



The Rock Creek Watershed, a tributary of the Potomac River, includes a drainage area of 60 square miles. Rock Creek flows 21 miles through central Montgomery County, east of I-270, then continues into the District of Columbia.



Stream Valley Drive Subwatershed Facts:

Subwatershed Drainage Area: 142 acres
Subwatershed Imperviousness: 6%
Property Ownership: Maryland-National Capital Park and Planning Commission

Restoration Goals:

Protect stream quality of an important head-water tributary to Rock Creek. To stabilize eroding stream banks, enhance a riparian buffer, improve fish passage, enhance flood-plain access, establish vernal pools, and improve instream aquatic habitat conditions. Reestablish a stable historical channel.

Stream Restoration Project Facts:

Project Length: 2,380 feet
Costs: Structural (\$170,000)
 Reforestation (\$60,000)
 Funded in part through a grant from the Maryland Department of Natural Resources
Project Completion Date: September 2004

Stream Monitoring Facts:


Pre and Post Restoration Monitoring, following MCDEP Monitoring Protocols, will continue for five years post-construction


For complete technical and professional specifications (coming soon), visit askdep.com

Project Selection


Montgomery County has a continuing commitment to protect and improve its water resources. *The Countywide Stream Protection Strategy*, (CSPS, 1998, updated 2003), published by the Department of Environmental Protection, evaluated biological, chemical, and habitat conditions of streams in the county, and identified impaired "priority" subwatersheds for restoration.

Following the CSPS, *The Rock Creek Watershed Feasibility Study* (April 2001)


evaluated more than 14 miles of Rock Creek and its tributaries to identify specific stream restoration and stormwater management opportunities. The study identified 23 priority stream restoration sites, including the Stream Valley Drive, a Class III  headwater tributary of Rock Creek.

The Rock Creek Watershed Restoration Action Plan summarizes the results of the Feasibility Study, and is available on the DEP website, askdep.com  or by contacting DEP at 240.777.7712.

Pre-Restoration Conditions

Generally, the Upper Rock Creek Watershed was categorized by the CSPS as having excellent to good stream conditions. In the Stream Valley Drive tributary, however, development impacts such as historic agricultural practices, a power line crossing, and road crossings, increased stormwater flow velocities, creating erosion, high sedimentation, incised channels  and degraded in-stream habitat.

Restoration Actions

The Stream Valley Drive stream project used restoration techniques to stabilize stream banks and enhance aquatic and riparian habitat. Newly built in-stream structures included log cross vanes,  which direct water away from unstable stream banks and form down stream scour pools, providing habitat for fish. Log cross vanes also function as grade control structures, which slow the erosive process of stream down-cutting.

Rock installed at the toe of the stream bank slope stabilized the area of the stream channel subject to the greatest erosive or "shear" stress. The slopes above the reinforced toes were graded back to create new floodplain terraces, which allow high flows to lose erosive energy by escaping the confined stream bank.

Diverse species of shade tolerant native trees and shrubs were planted to further stabilize the streambanks.

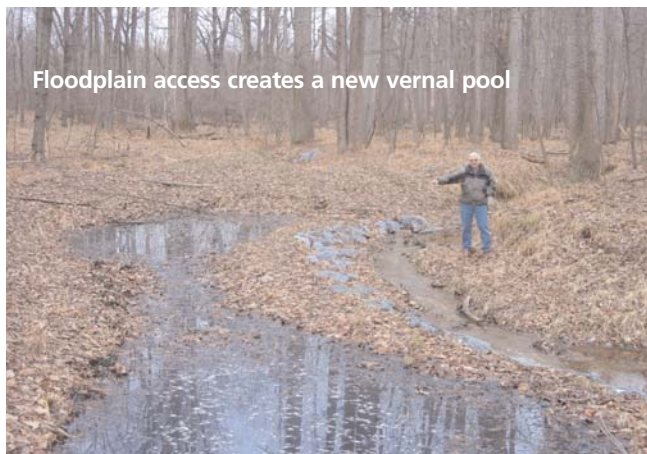
Log sills⁹ were constructed to add grade control and additional floodplain access.

The project attempted to save undercut stream bank trees with supportive rock packing.⁹ Seriously damaged trees were flush cut, allowing root systems to remain in the bank for stabilization.

The original stream below Fieldcrest Road had been diverted away from its natural channel into a straightened, entrenched ditch dur-



Pre-restoration conditions included severely eroded stream banks, and undercut trees,



Floodplain access creates a new vernal pool

Stream access to the original floodplain has created a new backwater vernal pool, an important habitat feature for amphibians and other aquatic plants and animals.



The stream is directed back to its original channel (left), away from the straightened, entrenched channel constructed as a result of Fieldcrest Road construction.




Rock stabilizes the toe of the stream bank slope, which has also been graded back to create access to a floodplain. This allows the erosive energy from high storm flows to dissipate.

ing road construction. The restoration project returned the stream to its original, gently meandering path, and left the straightened channel in place for storm overflow, with installed rock weirs, which created pools for additional wetland habitat.

Four shallow wetland pools⁹ were constructed throughout the stream floodplain, and planted with native wetland plant species. These wetlands quickly established balanced aquatic communities, which added additional aesthetic and habitat

benefits, including natural mosquito control. Additional reforestation included planting more than 730 native trees, shrubs, and wetland plants to enhance the riparian forest.

The goal of the Stream Valley Drive project is to restore the tributary to good biological and habitat conditions as defined in the *CSPS*. Pre- and post-construction biological and habitat monitoring is being conducted using protocols developed by DEP to measure success in meeting restoration goals.

 follow web link for more information

 see online glossary www.askdep.com/watershed_glossary.htm

December 2004

For more information:



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We've got answers!